

Greater Manchester Waste Plan

Approach to Managing Construction and Demolition Waste

Meeting the Inert Waste Capacity Gap

This report examines whether the Waste Plan's proposed policy of not allocating sites for inert waste is viable and how the waste will be dealt with in this situation.

Construction, Demolition and Excavation Waste Definition

Construction, demolition and excavation waste includes waste generated from construction sites, or from the demolition of buildings or structures, or both. Construction, demolition and excavation waste is largely made up of inert construction waste, such as bricks and hardcore which can be used in site restoration and land reclamation projects, but where such projects are not occurring this waste is landfilled. This waste stream also includes recyclable fractions such as plastics, wood and metal.

Figure 1: Inert Waste Arisings against Existing Disposal Capacity

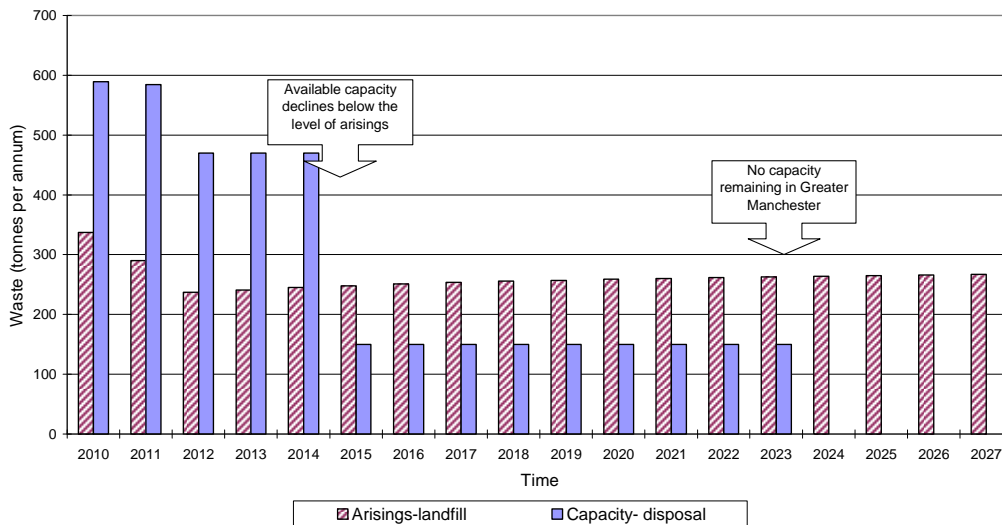


Figure 1 shows that whilst overall arisings are predicted to decline over the plan period the available capacity at construction, demolition and excavation waste disposal facilities is decreasing rapidly throughout the plan period. Two key points in the timeline are 2015 when the available capacity declines below the level of arisings and 2024 when there is no capacity left. The reason for these reductions in capacity is the closure of major landfill sites.

Overall Approach

The Waste Plan's approach to inert waste disposal site allocation has been developed from the responses received in relation to Issue 1 of the Stage Two Issues and Options: Residual Waste Disposal Report and Question 5 of the Preferred Option Report. Both Reports can be found at <http://www.gmwastedpd.co.uk/coredocs.html>.

The Residual Waste Disposal Report asked how the Waste Plan should meet the need for inert residual waste disposal. The site search process along with the call for sites exercise has shown that availability of inert residual waste disposal sites is limited within Greater Manchester. With this in mind and through the consultation exercise, the Outcomes Report identified the Preferred Option approach as being a combination of options as below:

- to allocate sites for inert residual waste disposal where possible; and
- for a criteria based policy to be developed, against which planning applications for residual waste disposal sites can be assessed.

As no potential sites for inert residual waste disposal came forward throughout the development of the Waste Plan. The Preferred Option Report asked if the approach to meeting the need for inert residual waste disposal should be to not allocate specific sites in the Waste Plan. Instead, planning applications for inert residual waste disposal can be assessed against policies in the Waste Plan and other relevant policies. The Outcomes Report from the Preferred Option stage revealed that the majority of respondents agreed that this approach was suitable if evidence was provided that the capacity gap could be met by alternatives to disposal. The remainder of this report assesses whether this evidence can be provided.

National Policy / Guidance

Not allocating new sites for inert waste disposal should encourage the reuse and recycling of inert wastes, thus driving them up the waste hierarchy. This approach is also in line with Chapter 3 of the Government's Sustainable Development Strategy: Sustainable Consumption and Production*. This strategy outlines the aim to 'close the resource loop' and states '*Product re-use, re-manufacturing and recycling offers many commercial opportunities, as well as environmental benefits. The Government will favour policies that advance these kinds of market, wherever they make good business and environment sense.*'

National and regional policy promotes the reuse and recycling of inert waste which will result in a reduction in the amount of inert waste that is sent to landfill/landraise. For example, the introduction of Site Waste Management Plans for projects over £300,000 means that developers will be required to show how waste will be managed on site, including reuse. In addition, the Government, through the Waste and Resource Action Programme (WRAP) and industry is promoting a scheme to halve the amount of construction,

demolition and excavation waste sent to landfill by 2012**. Although this scheme is voluntary at present, it highlights a shift in attitudes towards considering inert waste as a resource.

Meeting the Capacity Gap – Construction Projects

Even with the current recession in place Greater Manchester has still invested in redevelopment projects such as the New Islington Millennium Community; a housing development on a 12.5 ha (29 acre) site at Ancoats, East Manchester. It is considered reasonable to assume that further projects will come forward from 2015 onwards. The table within 'Appendix A' shows a selection of redevelopment projects planned for Greater Manchester as detailed within the individual districts Core Strategy's. The table also provides an estimate of the tonnage of recycled inert waste / aggregate the schemes are likely to utilise.

The estimations have been calculated by examining case studies listed on the AggreGain section of the Waste and Resource Action Programme (WRAP) website*** and by contacting construction engineers. From these case studies, figures were obtained of: 16.5 tonnes of recycled aggregate used in the construction of one house, 308 tonnes per hectare for mixed use schemes / commercial and industrial developments. One square metre equals 0.0001 hectares which was also used in the calculations.

With the future of Regional Spatial Strategies in doubt, the predicted number of houses to be constructed within each authority has been taken from alternative sources. Where a district is at the submission stage of their Core Strategy, the housing figures contained within the document has been used. Alternatively, where districts are at an early stage of document preparation, the Greater Manchester Forecasting Model 2009**** has been used.

An average annual tonnage figure for recycled aggregate use in new road developments and resurfacing works was obtained from A-one+ who are the Managing Agent Contractor for the Highways Agency. The figure provided was 3609 tonnes per annum across Greater Manchester, Cheshire, Merseyside and South Lancashire. It is considered for Greater Manchester that this figure may be approximately a quarter which is a fairly insignificant amount and as such has not been included in the calculations below.

The metrolink extensions to Oldham and Rochdale are due to be completed by 2012 and so have not been included either as it is not relevant to the capacity gap from 2015 onwards.

The table within Appendix A of schemes planned for Greater Manchester shows that the capacity gap should be met without the need for the allocation of more inert waste disposal sites. The total estimated capacity created by the construction projects is 2,168,212 tonnes of inert waste. When distributed

across the Waste Plan period 2010-2027, a figure of 127,541 tonnes per annum is provided.

In addition to the construction schemes noted in Appendix A, there will be other applications for disposal of inert waste to land which will provide further means of ensuring the capacity gap is met. An estimation of the capacity created by such schemes has been calculated in the section below by examining past trends and future opportunities.

Meeting the Capacity Gap - Disposal to Land

Inert waste can be deposited to land to achieve a variety of positive outcomes as historically has been the case in Greater Manchester. Examples of such schemes are; Disposal of inert waste at 'exempt' sites; Use of inert material for engineering and daily cover in non-hazardous landfills; Alteration of ground levels using inert waste, e.g. Landscaping and agricultural improvements, regeneration schemes, equestrian facilities; and quarry restoration.

In addition to the use of inert material at exempt sites, a review of planning applications to Greater Manchester Authorities over the past six years**** shows that there have been thirteen applications for the disposal to land of inert waste. The total known permitted quantity of inert waste to be disposed of to land arising from these applications is approximately 4 million tonnes. This figure includes a permission which was granted in 2008 at Morley's Hall Quarry, Wigan for the restoration of the quarry using 150,000 tonnes per annum of inert waste to be deposited until 2024. This demonstrates that there is considerable scope for managing inert residual waste without the need to allocate specific sites in the Waste Plan.

Through the schemes noted above, the capacity gap has been met and will be met up to 2015. However, as identified in Figure 1 there are two key points in the timeline; 2015 when the available capacity declines below the level of arisings and 2023 when there is no capacity left. In 2015 the capacity gap will be 98,000 tonnes and rises steadily to 113,000 by 2024 when capacity runs out. As there is no more capacity, in 2024 when Morley's Hall Quarry will be fully restored, the capacity gap rises to 264,000 tonnes and then to 267,000 tonnes by 2027.

As noted in **paragraph x**, over the past 6 years there have been thirteen planning applications submitted for the disposal to land of inert waste. The total permitted capacity of those applications which were approved is approximately 4 million tonnes to be utilised between 2004 and 2024 (20 years). The 4 million tonnes has been included in the Needs Assessment figures shown in Figure 1. The permitted capacity consists of; Disposal of inert waste at 'exempt' sites; Use of inert material for engineering and daily cover in non-hazardous landfills; Alteration of ground levels using inert waste, e.g. Landscaping and agricultural improvements, regeneration schemes, equestrian facilities; and quarry restoration. It can be seen from the Greater Manchester Geological Unit (GMGU) historical records which date back to the

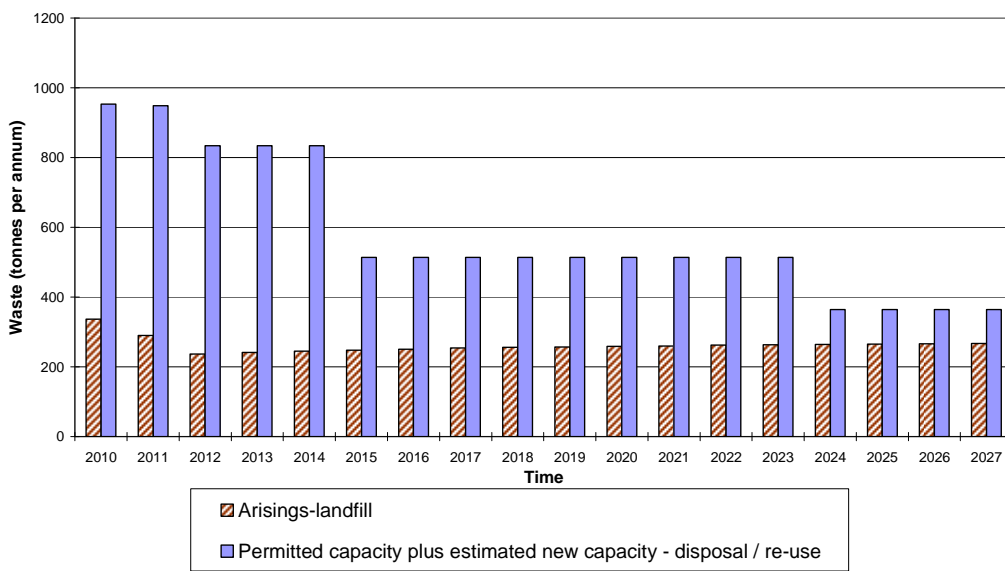
1950's, that schemes such as these have always come forward. Therefore, there is no reason that the trend will continue throughout the plan period.

GMGU records also show that there are at least 14 quarries throughout Greater Manchester which have planning permission with end dates set after the scope of the Waste Plan. This is due to the Environment Act 1995 which provides for the 15 year periodic review of mineral permissions. The Environment Act set all end dates of relevant permission to 2042. As this end date is after 2027 (the lifespan of the Waste Plan) restoration of these quarries which will involve importation of inert waste will not have been included within the Needs Assessment. It is likely that during the Waste Plan lifetime some of these quarries will be worked-out and so will require restoration and hence requiring the importation of inert wastes.

One can assume that the rate of applications for the disposal of inert waste to land will continue in the same manner as it has for the previous 6 years. The rate is 4 million tonnes of capacity stretching over a 20 year period. This equates to 200,000 tonnes of capacity to become available each year.

The capacity estimated in the calculations above, combined with the capacity created by the planned construction schemes from Appendix A is 164,124 + 200,000 = 364,124 tonnes per annum of new capacity. Figure 2 below has been created by adding this new estimated capacity to the existing permitted capacity across Greater Manchester throughout the Waste Plan production.

Figure 2: Inert Waste Arisings against Estimated Future Disposal and Re-use Capacity



Conclusion

Figure 2 indicates that the Waste Plan policy of not allocating sites for inert waste is viable as the capacity gap can be met by the other methods identified in this report. Those methods are namely; Disposal of inert waste at 'exempt' sites; Use of inert material for engineering and daily cover in non-hazardous landfills; Alteration of ground levels using inert waste, e.g. Landscaping and agricultural improvements, regeneration schemes, equestrian facilities; and quarry restoration. Figure 2 shows capacity dropping over the Waste Plan lifetime, however, this is due to existing permitted schemes being completed. In reality, there will be peaks and troughs in capacity when new schemes become active and others close. The new estimated capacity figure, when spread evenly across the Waste Plan lifetime, shows the capacity gap will be met.

*** For more information see:**

<http://www.defra.gov.uk/sustainable/government/publications/uk-strategy/documents/Chap3.pdf>

**** For more information see:**

http://http://www.wrap.org.uk/construction/halving_waste_to_landfill/index.html

***** For more information see:**

<http://aggregain.wrap.org.uk/applications/aggregain/casestudysearch/index.r>
[m](http://aggregain.wrap.org.uk/applications/aggregain/casestudysearch/index.r)

****** For more information see:**

http://neweconomymanchester.com/stories/1119-greater_manchester_forecasting_model

********* This review is unlikely to be exhaustive as GMGU are not consulted on all applications and there might be other examples of applications for the alteration of ground levels using inert waste

Appendix A

District	Project	Tonnage estimation of inert waste to be utilised
Bolton	<p>Horwich Loco Works (mixed use development, 73 ha), Cutacre (new employment area, 80ha) and the Town Centre</p> <p>Core Strategy – 9022 houses (2015-2027)</p>	<p>47,000 tonnes (mixed uses)</p> <p>148,863 tonnes (housing)</p>
Bury	<p>Identify 84.6 hectares of employment land (strategic employment sites). Town centre redevelopments proposed include:</p> <ul style="list-style-type: none"> - Prestwich: demolition of existing buildings and construction of a town centre mixed use development comprising uses with floor areas up to: food retail 6,040m², non food retail 2,218m², restaurant 385m², library 1,287m², offices 3,360m², residential 36 units (included in housing trajectory), hotel 70 bed, new Longfield Suite entrance 540m², plant areas 421m², parking spaces 384 and highway infrastructure works and extension of Rectory Lane - Radcliffe SUN Quarter: potential to rebuild the bus station, improve the market hall frontage, new supermarket approx 1000m² with 75 parking spaces, 3 small retail stores. <p>Proposed community facilities:</p> <ul style="list-style-type: none"> - Replace Millwood Primary Special School - Replace Elms Bank Secondary Special School - Replace Radcliffe Riverside Secondary School (14,000 sqm approx) 	<p>30,000 (mixed uses)</p> <p>143,550 tonnes (housing)</p>

	<p>- New health centres in Prestwich (4,000 sqm approx) and Whitefield (unknown size - PCT have not provided any info)</p> <p>Greater Manchester Forecasting Model – 8,700 houses (2015-2027)</p>	
Manchester	<p>14 Strategic housing sites identified in Core Strategy; 8 strategic economic and employment sites identified in Core Strategy</p> <p>Greater Manchester Forecasting Model – 33,200 houses (2015-2027)</p>	547,800 tonnes (housing)
Oldham	Greater Manchester Forecasting Model – 6,800 houses (2015-2027)	112,200 tonnes (housing)
Rochdale	Greater Manchester Forecasting Model – 7,800 (2015-2027)	128,700 tonnes (housing)
Salford	<p>Between 2007 – 2027, 650,000sqm of office floorspace, 210,000sqm of industry (B1c/B2) and 250,000sqm of warehousing was envisaged.</p> <p>Port Salford (Inter-modal Freight Facility) – 2 berths, railway branch line, sidings, multi-modal terminal facility, car park, canal engineering works, highway improvements, road link and warehousing.</p> <p>Salford Reds Stadium – new stadium, associated facilities and highway improvements</p> <p>Greater Manchester Forecasting Model – 10,400 (2015-2027)</p>	<p>25,000 tonnes (mixed uses)</p> <p>171,600 tonnes (housing)</p>
Stockport	<p>Stockport Town Centre and surrounding area is planned to be the main focus of development, including most of the retail and leisure development (the Council still aims to achieve a major regeneration of the shopping centre despite the stand still during the recession), office development and up to 50% of the housing figure above.</p> <p>The only other site/location that may be significant re minerals is the redevelopment of Woodford Aerodrome, where a large runway may be ripped up and 42 hectares of Major Existing Developed Site in the Green Belt redeveloped. The scale and nature of</p>	<p>25,000 tonnes (mixed uses)</p> <p>169,950 tonnes (housing)</p>

	<p>the mix of uses expected on the site is still being worked out. BAE Systems who occupy the site are closing down their operations in 2012.</p> <p>Greater Manchester Forecasting Model – 10,300 houses (2015-2027)</p>	
Tameside	<p>In terms of significant commercial and non-residential development, it appears doubtful that there will be any big schemes but we do expect to see the development of two new supermarkets at Stalybridge and Hattersley, both of which will be 80,000sq ft plus. There will be four new schools in the BSF programme, but new office and manufacturing buildings may prove to be insignificant as Ashton Moss is filled and no new sites appear.</p> <p>As for major development, I would use a definition of major sites as sites of any land use type which are of sub-regional significance. Put simply, we will not have any, but we do have three transport infrastructure schemes, the Ashton Northern Bypass and the Mottram Bypass, which are likely to come to fruition during our LDF period. These will be major users of hardcore etc.</p> <p>Greater Manchester Forecasting Model – 10,900 (2015-2027)</p>	<p>8,000 tonnes (mixed uses)</p> <p>179,850 tonnes (housing)</p>
Trafford	<p>Pomona Island – new mixed-use commercial district, up to 10ha employment activity</p> <p>Trafford Wharfside – mixed use development up to 15 ha employment, retail and community uses.</p> <p>Lancashire County Cricket Club Quarter – major mixed use development , redeveloped sports stadium, redeveloped town hall, highway improvements</p> <p>Trafford Centre Rectangle – mixed use development, up to 10ha employment land, community facilities, hotel, museum.</p> <p>Carrington –75 ha employment land,</p>	<p>33,000 tonnes (mixed uses)</p> <p>143,550 tonnes (housing)</p>

	community facilities Greater Manchester Forecasting Model – 8,700 houses (2015-2027)	
Wigan	Wigan town centre, Leigh Town Centre, Ashton Town Centre, Greater Manchester Forecasting Model – 12,700 houses (2015-2027)	10,000 tonnes (mixed uses) 209,550 tonnes (housing)
Total Estimated Use 2015 – 2027		2,133,613 tonnes (excluding metro and road redevelopments)
Total Capacity Gap 2015 - 2027		2,022,000 tonnes
Remaining Capacity Not Identified		Nil (surplus of 111,613)